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| 09/987,610      | 11/15/2001  | Albert Chow          | 03493.00226         | 7403             |

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BANNER & WITCOFF  
1001 G STREET N W  
SUITE 1100  
WASHINGTON, DC 20001

EXAMINER

GESESSE, TILAHUN

| ART UNIT | PAPER NUMBER |
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2684

DATE MAILED: 10/05/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/987,610

Applicant(s)

CHOW ET AL.

Examiner

Tilahun B Gesesse

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) 1-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-43, 46-55 and 58-60 is/are rejected.
- 7) ☐ Claim(s) 44, 45, 56 and 57 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3-6</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 16 recites the limitation "said plurality of cordless telephone terminals and said digital telecommunication terminal" in lines 7-8 and 10-11 respectively. There is insufficient antecedent basis for this limitation in the claim.

Claim 40 recites the limitation "said LDS ; said plurality of cordless telephone terminals and a local digital switch (LDS)" in lines 6,7 and 11. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 16-19,22-32,35-43,46-55,58-60 are ejected under 35

U.S.C. 102(b) as being anticipated by Connolly et al "**Connolly**" (5325,419).

As to claim 16, Connolly discloses a network architecture for providing a local cordless-type service ( plurality of remote radio terminals, IBSs, PCS switch center , figure 1),comprising:

a plurality of wireless telephone terminals (12) having a directory number (DN) coupled by respective bearer channels to a line side of a digital telecommunications switch (PCS switch center) , the bearer channel assigned from a pool of available radio frequencies over which one of said plurality of wireless telephone terminals sends and receives radio frequency signals (column 30, lines 29-62 and claim 1).

at least one intelligent base station (IBS) (14 and 20) for receiving radio frequency signals from a plurality of cordless telephone terminals (figure 1), the digital telecommunications switch (PCS switch center 16) coupled to the IBS, the digital telecommunications switch providing a bearer channel line interface to the IBS, the digital telecommunications switch further providing a trunk side interface to a public switched telecommunications network (the PCS system in figure 1 has full ISDN interface and connected to PSTN (22) (column 8, lines 7-47 and figure 1).

As to claim 17, Connolly discloses a remote digital terminal (RDT) (12) coupled to a plurality of IBSs for providing bearer channel interfaces between

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each of the plurality of IBSs and the digital telecommunications switch (figure 1 and claim 1).

As to claim 18, Connolly discloses a basic rate interface (BRI) bearer channel between each IBS and the RDT (12) (column 12, lines 32-42). It is considered that basic rate interface is available in ISDN network.

As to claim 19, Connolly discloses in event of first and second simultaneously pending telecommunications calls being handled by the IBS, the IBS processes the telecommunications calls via the BRI bearer channel (column 39, lines 31-59).

As to claim 22, Connolly discloses the IBS communicates directly with the digital telecommunications switch using an Integrate Service Digital Network (ISDN) basic rate interface (BRI) link (column 12, 32-43 and figure 1). The PCS switching center (16) is considered as mobile switching center (MSC).

As to claim 23, Connolly discloses the digital telecommunications switch Interfaces (PCS switch) with a mobile switching center over trunk lines (hard line of figure 1).

As to claims 24-27, Connolly discloses each wireless telephone terminals is assigned to interact with one of a plurality of DNs (column 9, line 54-column 10 line 15).

As to claims 28,59, Connolly discloses the one of the wireless telephone terminals is removed from a neighborhood zone where a telecommunications call was initiated (personal base station), the telecommunications call being handed

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off to another IBS (column 43 lines 25-53)

As to claim 29, Connolly discloses a method for providing local cordless-type service, (figure 1) comprising the steps of: initiating, by a subscriber, a telecommunications call in a neighborhood zone for which the subscriber has selected the local cordless-type service (column 10 lines 28-43), assigning at least one directory number (DN) to each of a plurality of wireless telephone terminals for which said local cordless-type service has been initiated column 9, lines 53-64), assigning, by an intelligent base station (IBS) (14,20), a bearer channel from a pool of available radio frequencies to the telecommunications call initiated by said subscriber using one of said plurality of wireless telephone terminals (figure 1 and claim 1), and processing, by the IBS, of the telecommunications call via a digital telecommunications switch in communication with a public switched telecommunications network (PSTN)(22), the digital telecommunications switch providing a bearer channel line interface to the IBS, the digital telecommunications switch further providing a trunk side interface to the PSTN (column 8, lines 6-48 and figure 1).

As to claim 30, Connolly discloses a remote digital terminal (RDT) (12), coupled to a plurality of IBSs (14 and 20) provides bearer channel interfaces between each of the IBSs and the digital telecommunications switch (ISDN switch STP, figure 1).

As to claims 31,42,, Connolly discloses providing an ISDN rate interface (BRI) bearer channel between each IBS and said RDT (column 12, lines 32-43).

As to claims 32,43, Connolly discloses processing, by said IBS via

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the ISDN/BRI bearer channel, simultaneously pending telecommunications calls (column 12, lines 32-43 and figure 1).

As to claims 35,55, Connolly discloses the IBS communicates directly with the digital telecommunications switch using an Integrated Services Digital Network (ISDN) basic rate interface (BRI) link (column 12, lines 32-43).

As to claim 36. Connolly discloses interfacing over trunk lines by said digital telecommunications switch with a mobile switching center (MSC) (the STP of Ain network is considered as MSC, of figure 1).

As to claims 37-38 and 58, Connolly discloses assigning each wireless telephone terminal a plurality of DNs as the wireless telephone terminal moves from one neighborhood zone to another neighborhood zone (column 9, lines 44-53).

Claims 39,52 and 60, which recite the steps for implementing apparatus claim 29, are rejected for same reason as set forth in the claim.

As to claims 40,46-51, Connolly discloses a network architecture for providing a local cordless-type service,(the PCS network of figure 1) comprising: a plurality of mobile stations (MSs) (12), each MS in a neighborhood zone will associate with a wired network directory number (DN) assigned to an IBS (column 9, lines 53-63),

a bearer channel assigned from a pool of available radio frequencies, administered by RF management processes between an network server platform (AIN of figure 1) (NSP) and the IBS via a LDS transparently, over which one of a

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plurality of cordless telephone terminals and mobile stations sends and receives radio frequency signals (figure 1 and claim 1);

at least one intelligent base station (IBS) (14 and 20) for receiving radio frequency signals from the plurality of MSs; and a local digital switch (LDS) (STP) coupled to the IBS, the LDS providing a bearer channel line interface to the IBS, the LDS further providing a trunk-side interface to one of a public switched telecommunications system (.PSTN) and a public cellular/PCS network (column 7, line 50-column 8, 47 and figure 1).

As to claims 41 and 53-54, Connolly discloses a first remote digital terminal (RDT) (12) coupled to a plurality of IBSs (14 and 20) for providing bearer channel interfaces between each of said plurality of IBSs and said LDS (STP of figure 1).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 20-21 and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Connolly in view of Alberth, et al (6,021,332).

As to claims 20 and 33, Connolly does not disclose the RDT (12) acts as a concentrator for radio frequency signals sent from the plurality of wireless telephone terminals over the bearer channel. However, Alberth discloses the

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RDT (100) interfaces radio frequency signals sent from of wireless telephone terminals (324 and 301) over the bearer channel (302) (column 4, line 50-column 5, line 65 and figure 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to interface radio frequency signals sent from wireless terminals, as taught by Alberth, for energizing or connecting the call to the other end terminal.

8. Claims 21 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Connolly in view Alberth as applied to claims 20 and 33 above, and further in view of Cook et al (5,974,331).

As to claims 21 and 34 Connolly in view Alberth do not disclose the digital telecommunication switch using a GR-303 standard interface. However, Cook discloses the digital telecommunication switch using a GR-303 (column 4, lines 65-column 5, line 3 and figure 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to digital telecommunication switch using a GR-303 interface, as taught by Cook, for interfacing the communication between switching network in fastest manner.

***Allowable Subject Matter***

9. Claims 44-45 and 56-57 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art does not teach a second RDT, the first RDT provides

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an interface to the second RDT, said second RDT provides an interface between said first RDT and the LDS, said first RDT acts as a concentrator for radio frequency signals sent from said plurality of mobile stations over said bearer channel.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jensen et al (5,648,955) discloses a simple and flexible over air protocol for use with a mobile communication system, having hand-held telephone in a micro-cell or other type of cellular communication system (abstract).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tilahun B Gesesse whose telephone number is 703-308-5873. The examiner can normally be reached on flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 703-308-7745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tilahun Gesesse  
Primary Examiner  
US Patent and Trademark Office  
Tel. 703-308-5873



**TILAHUN GESESSE  
PATENT EXAMINER**

September 30, 2004

